Monitoring Data Record

Project Title: B-3126 (Br. #90 over Gunpowder Creek on SR 1718
COE Action ID: 2007-1591-214 DWQ Number: 070583
Stream Name: Tributary to Gunpowder Creek
City, County and other Location Information: Caldwell County, Bridge #90 over Gunpowder Creek on SR 1718 (Deal Mill Road) near Granite Falls.
Date Construction Completed: 3/11/09 Monitoring Year: (4) of 5
Ecoregion: 8 digit HUC unit 03050101
USGS Quad Name and Coordinates: Granite Falls N 35.84415, W 81.43603
Rosgen Classification: Proposed C5 Stream Type
Length of Project: 315' Urban or Rural: Rural Watershed Size:
Monitoring DATA collected by: J. Young and J. Elliott Date: 8/21/12
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Road Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov
Consultant Information:
Name:
Address:
Telephone Number: Email address:
Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level (**1**) ~~2~~ ~~3~~
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Permit States: ***(COE Permit Requirements):*** The permittee shall perform the following components of Level I monitoring each year for the 5-year monitoring period: Reference photos; plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes, and proposed/required remedial action); visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. The permittee shall submit the monitoring reports to the Corps of Engineers, Raleigh Regulatory Field Office Project Manager, within sixty days after completing the monitoring. If less than two bankfull events occur during the first 5 years, the permittee shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the five-year monitoring period, the Corps of Engineers, in consultation with the resource agencies, may determine that further monitoring is not required. It is suggested that all bankfull occurrences be monitored and reported through the required monitoring period. The permittee shall perform and submit photo documentation twice each year (summer and winter) for the 5-year monitoring period, and for any subsequently required monitoring period.

(DWQ Permit Requirements): The permittee shall visually monitor the vegetative plantings to assess and ensure complete stabilization of the mitigation stream segments. The monitoring shall be conducted annually for a minimum of three (3) years after final planting. Photo documentation should be utilized to document the success of the riparian vegetation and the results submitted in a final report to DWQ within sixty (60) after completing the monitoring. After three (3) years a site visit shall be conducted by DWQ staff to "close out" the mitigation site.

Section 1. PHOTO REFERENCE SITES
(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site:
6 photos were taken from 3 photo point locations and an overview photo
Dates reference photos have been taken at this site: 9/30/09, 2/25/10, 7/22/10, 2/9/11, 6/16/11, 1/10/12, 8/21/12

Individual from whom additional photos can be obtained (name, address, phone):

Other Information relative to site photo reference: A site map with photo point locations is included with this report.

If required to complete Level 3 monitoring only stop here; otherwise, complete section 2.

Section 2. PLANT SURVIVAL
Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

Estimated causes, and proposed/required remedial action:

ADDITIONAL COMMENTS: Planted vegetation is surviving along the streambank and within the buffer area which included black willow, silky dogwood, sycamore, poplar, river birch, and black cherry. Other vegetation noted onsite included jewelweed, lespedeza, ragweed, fennel, green briars, and various grasses. After a portion of the buffer was mowed, NCDOT replanted the left buffer area and installed a sign indicating that this mitigation site was not to be disturbed on February 17, 2011. This area has not been disturbed since this action took place. NCDOT will continue to monitor the plant survival.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.
This is the Year 4 Summer evaluation for the Tributary to Gunpowder Creek. Water continues to pipe under the crossvanes at Sta. 2+50 -NSD- and 3+10 –NSD- but does not appear to be causing any instability issues at this time. On two separate occasions in December 2011 and in January 2012, NCDOT attempted to repair the crossvanes. NCDOT will continue to monitor the channel stability at this stream relocation.

A site visit was conducted on June 16, 2011 with the regulatory agencies and NCDOT personnel present.

Date 8/21/12	Sta. 2+40 -NSD- (additional photo)	Sta. 2+50 -NSD- (additional photo)	Sta. 3+10 -NSD- (additional photo)	Station Number	Station Number
Structure Type	Crossvane	Crossvane	Crossvane		
Is water piping through or around structure?	Water is flowing over top of the crossvane	Water piping under crossvane	Water piping under last crossvane		
Head cut or down cut present?					
Bank or scour erosion present?					
Other problems noted?					

Section 4. DEBIT LEDGER

The entire Gunpowder Creek stream mitigation site was used for the B-3126 project to compensate for unavoidable stream impacts.

Tributary to Gunpowder Creek

Photo Point #1 (Upstream)

Photo Point #1 (Downstream)

Photo Point #2 (Upstream)

Photo Point #2 (Downstream)

Photo Point #3 (Upstream)

Photo Point #3 (Downstream)

Year 4 Summer – August 2012

Tributary to Gunpowder Creek

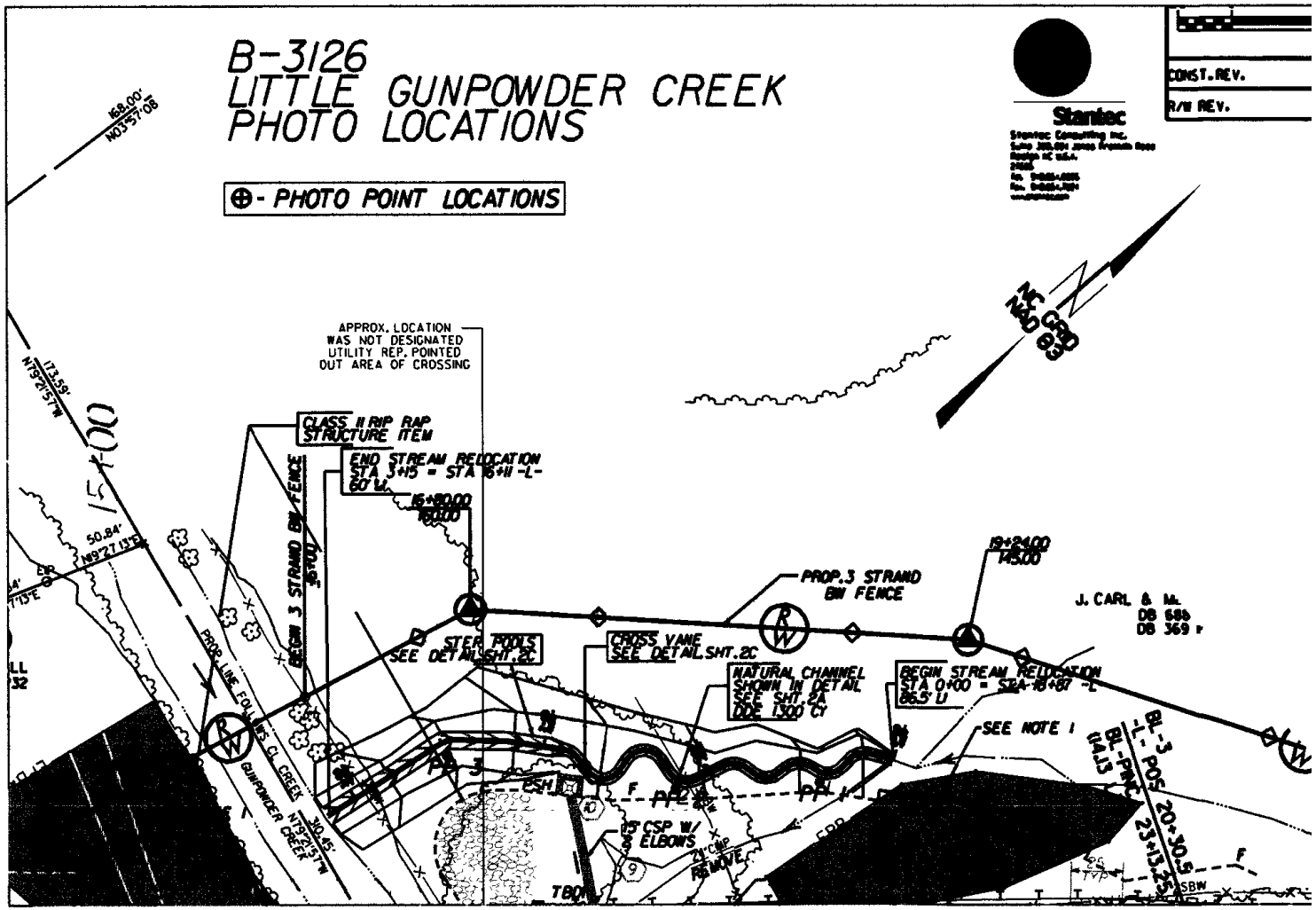
Water flowing over crossvane @ Sta. 2+40-NSD-

Water piping under crossvane @ Sta. 2+50-NSD-

Water piping under crossvane @ Sta. 3+10-NSD-

Overview Photo

Year 4 Summer – August 2012



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